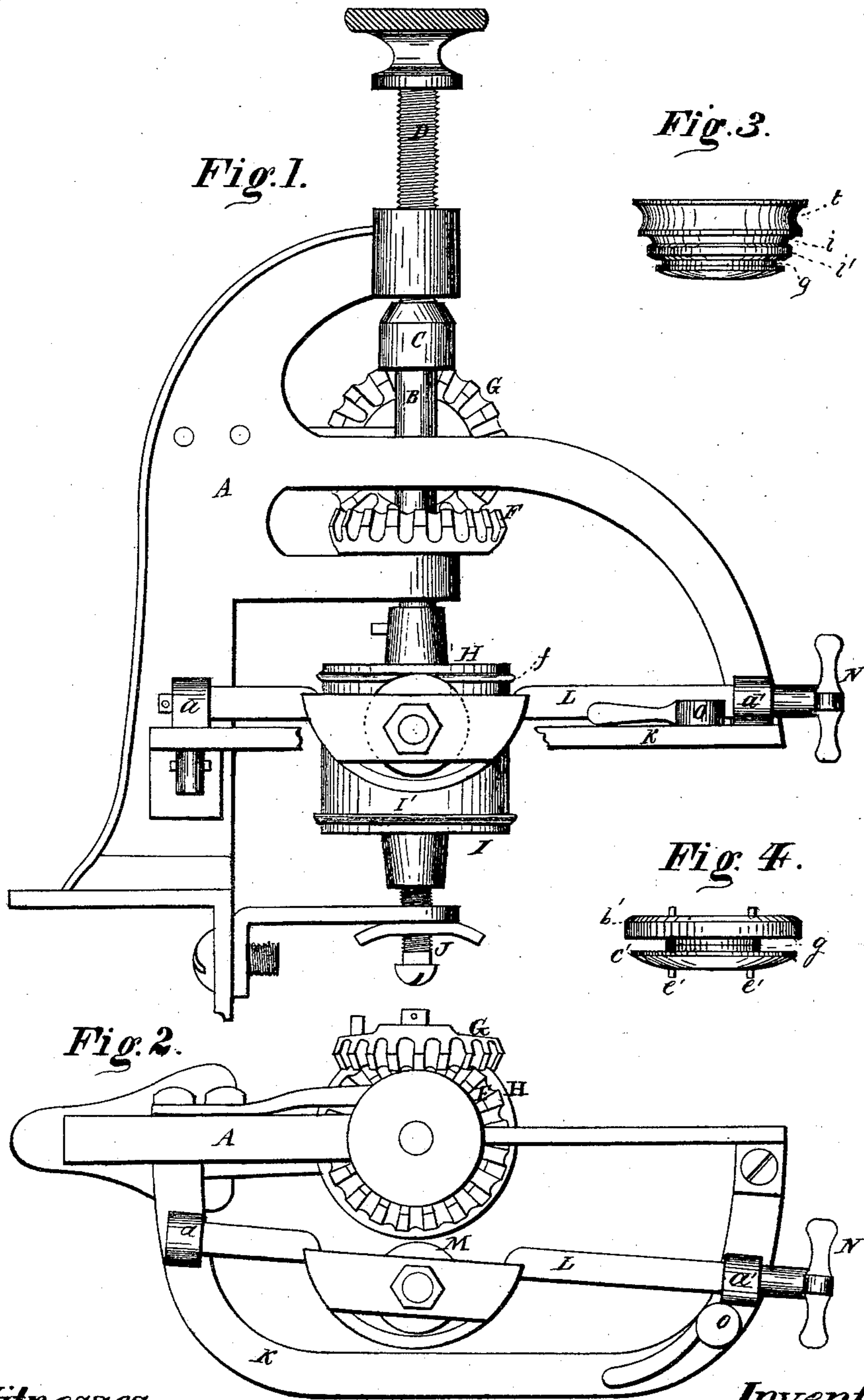


L. C. BEARDSLEY.  
Can-Seaming Machines.

No. 156,012.

Patented Oct. 20, 1874.



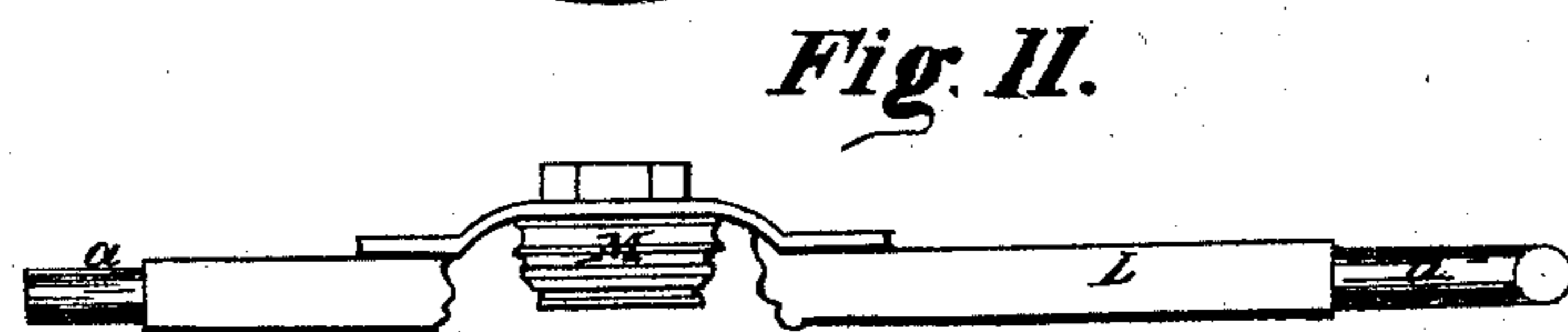
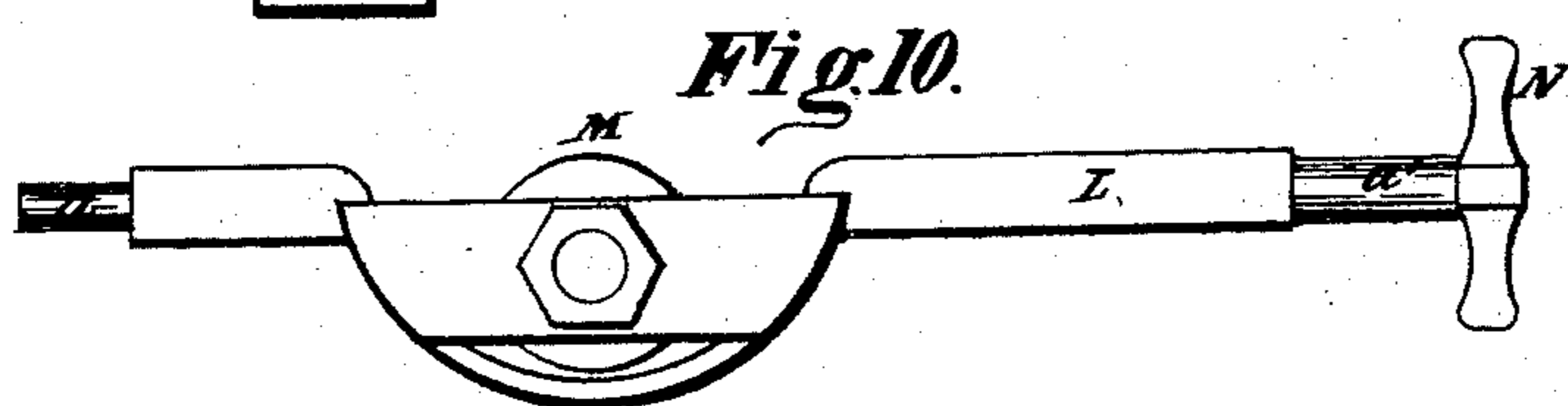
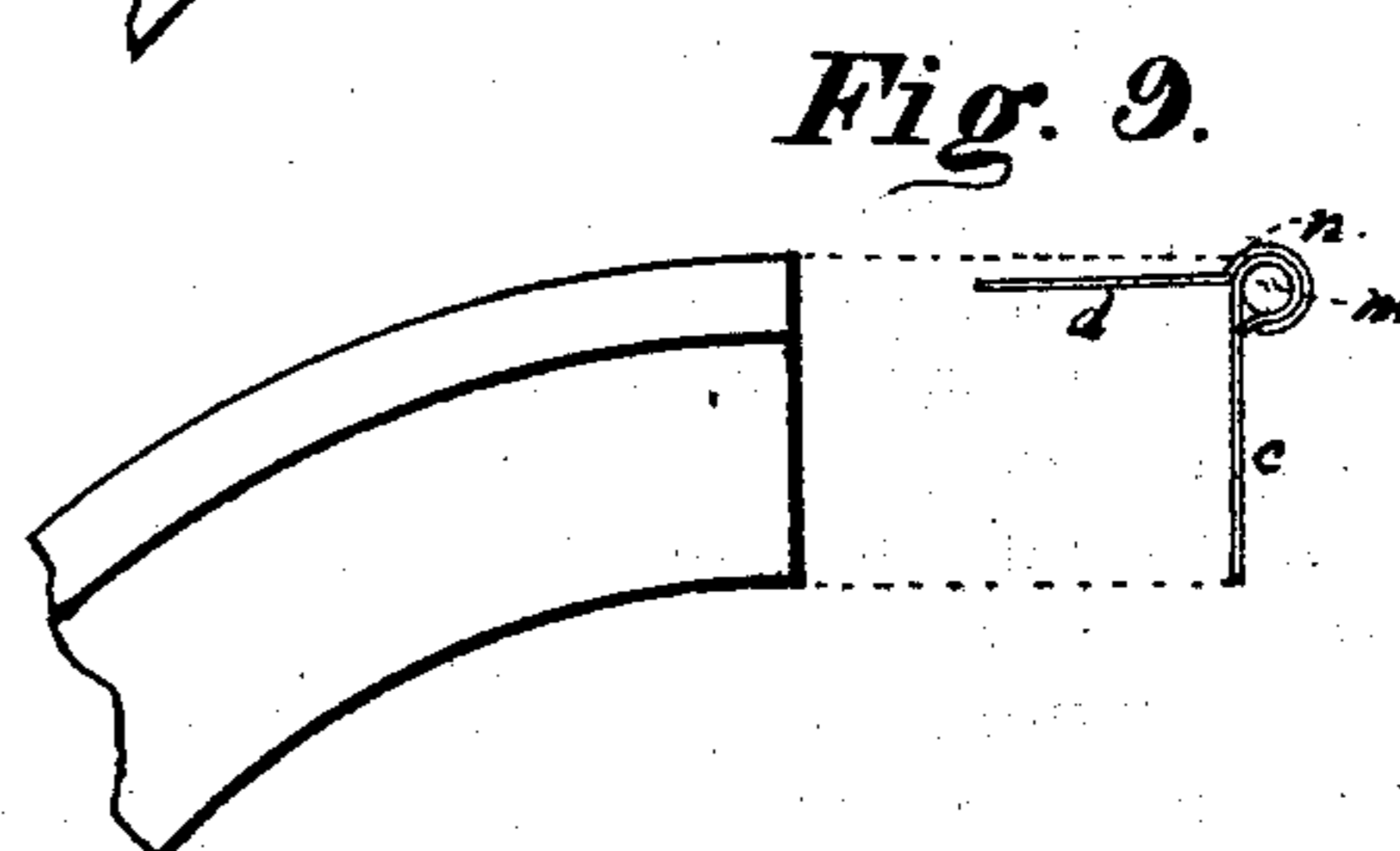
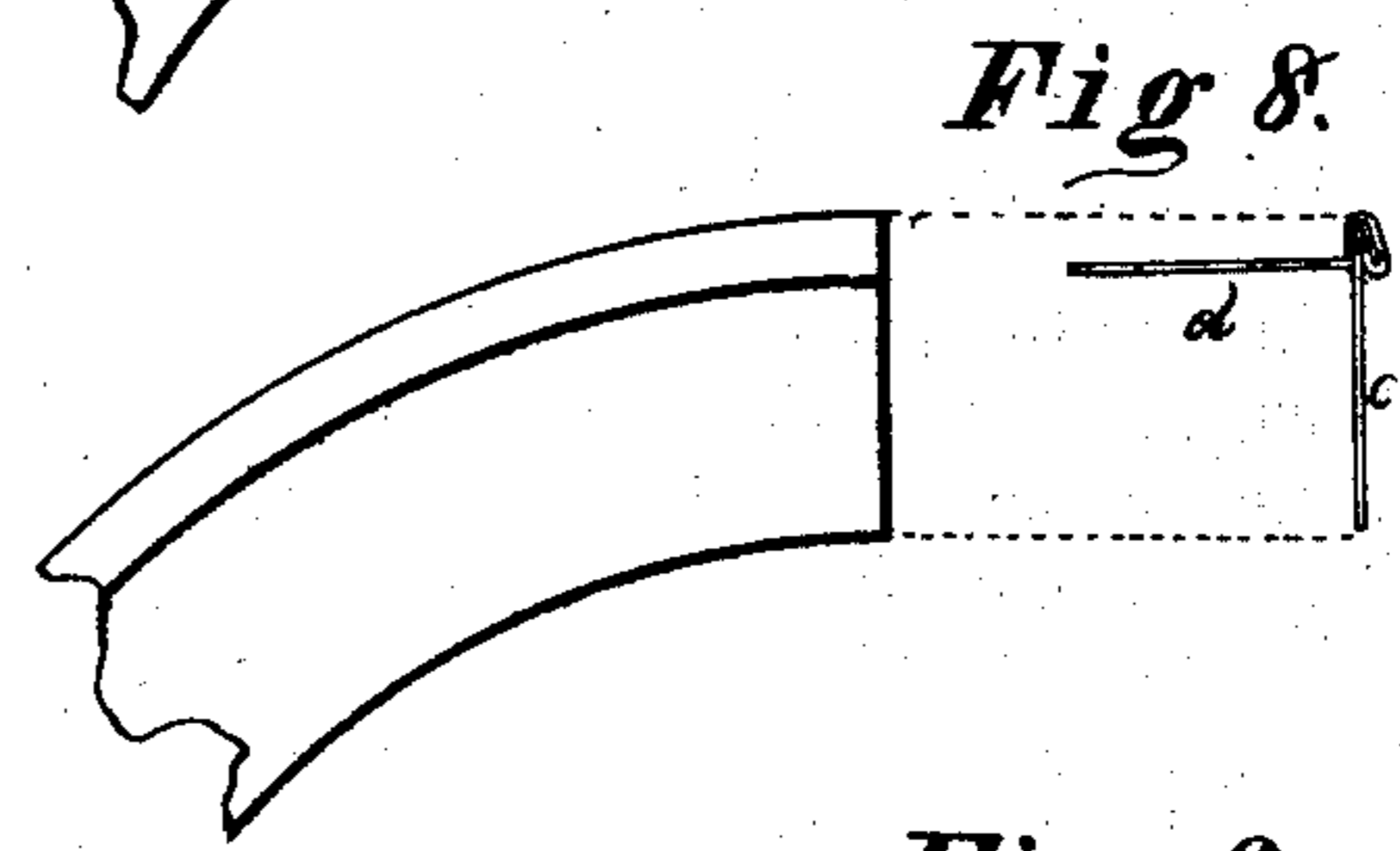
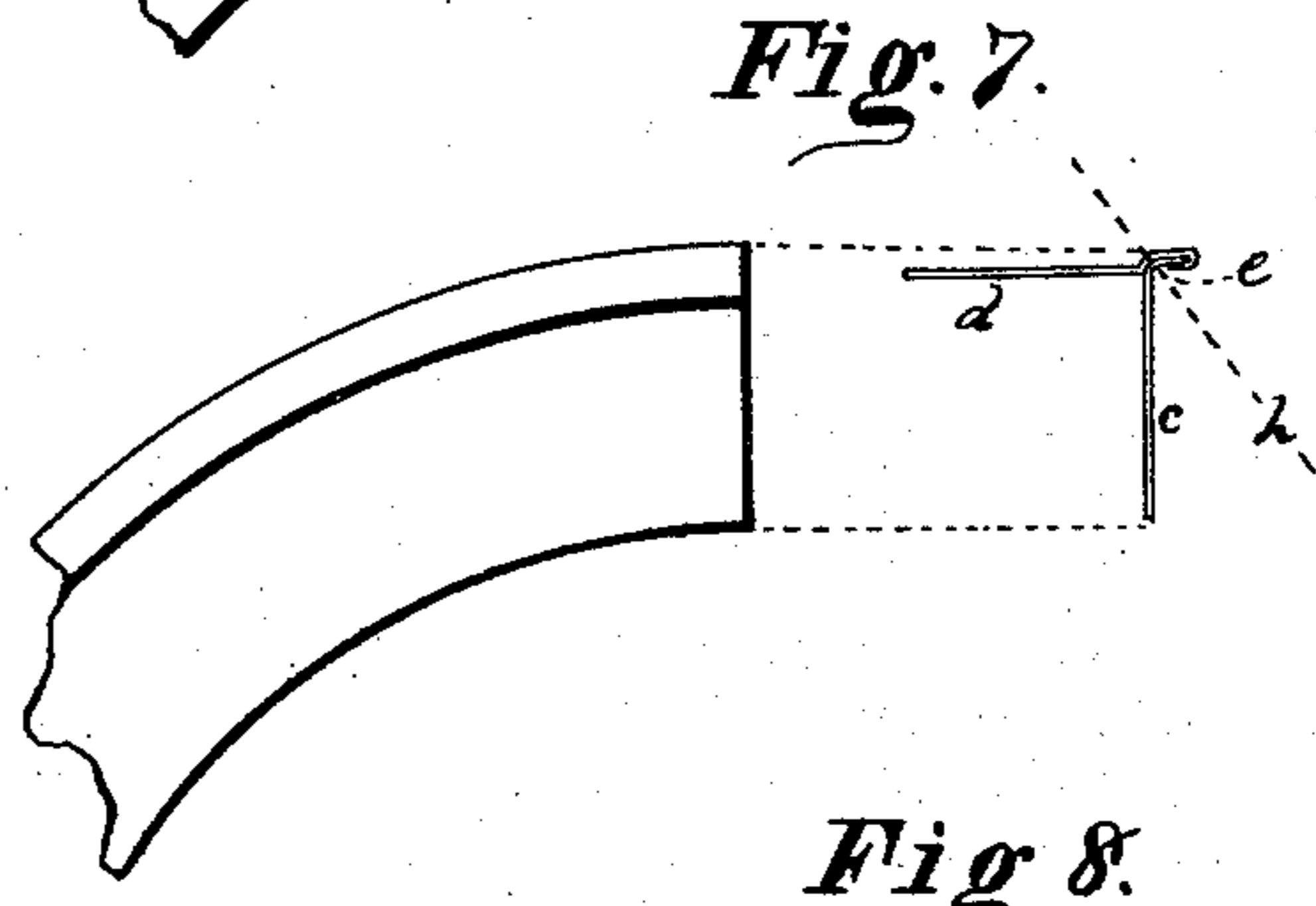
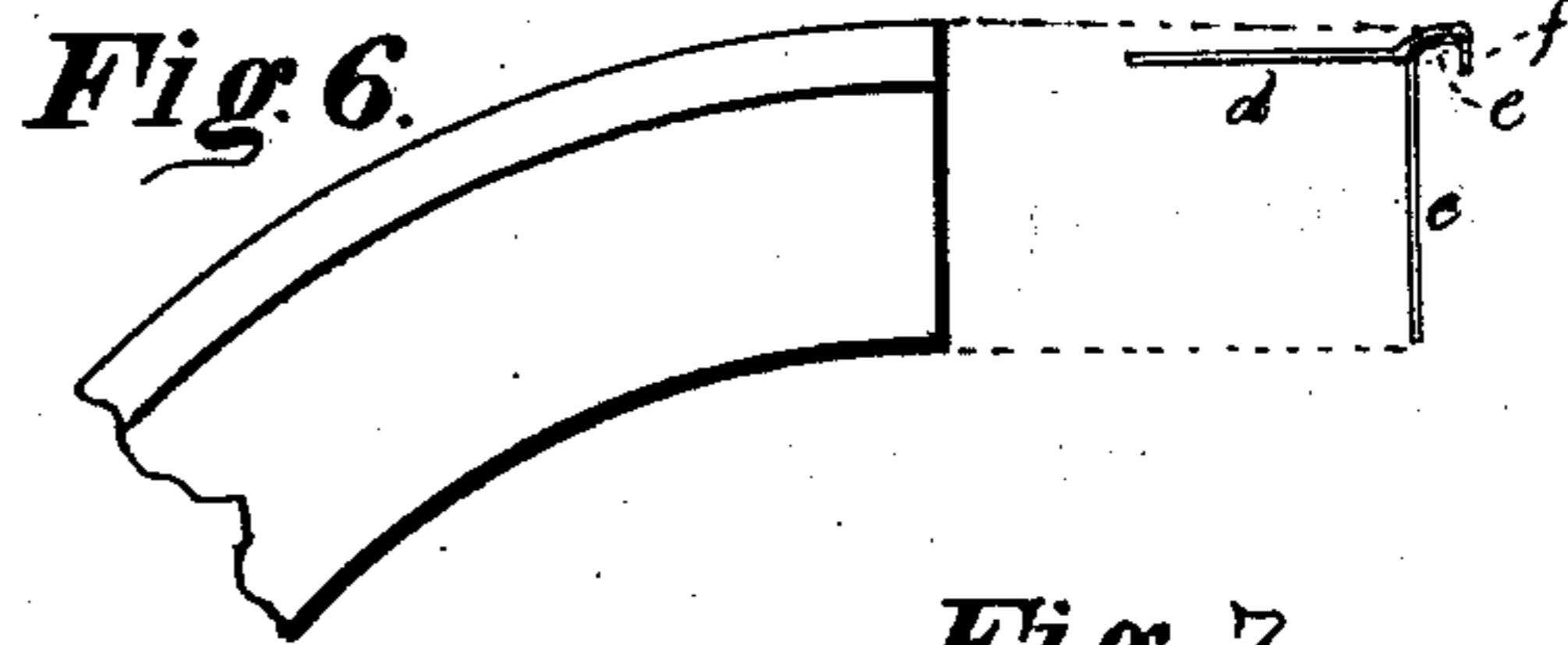
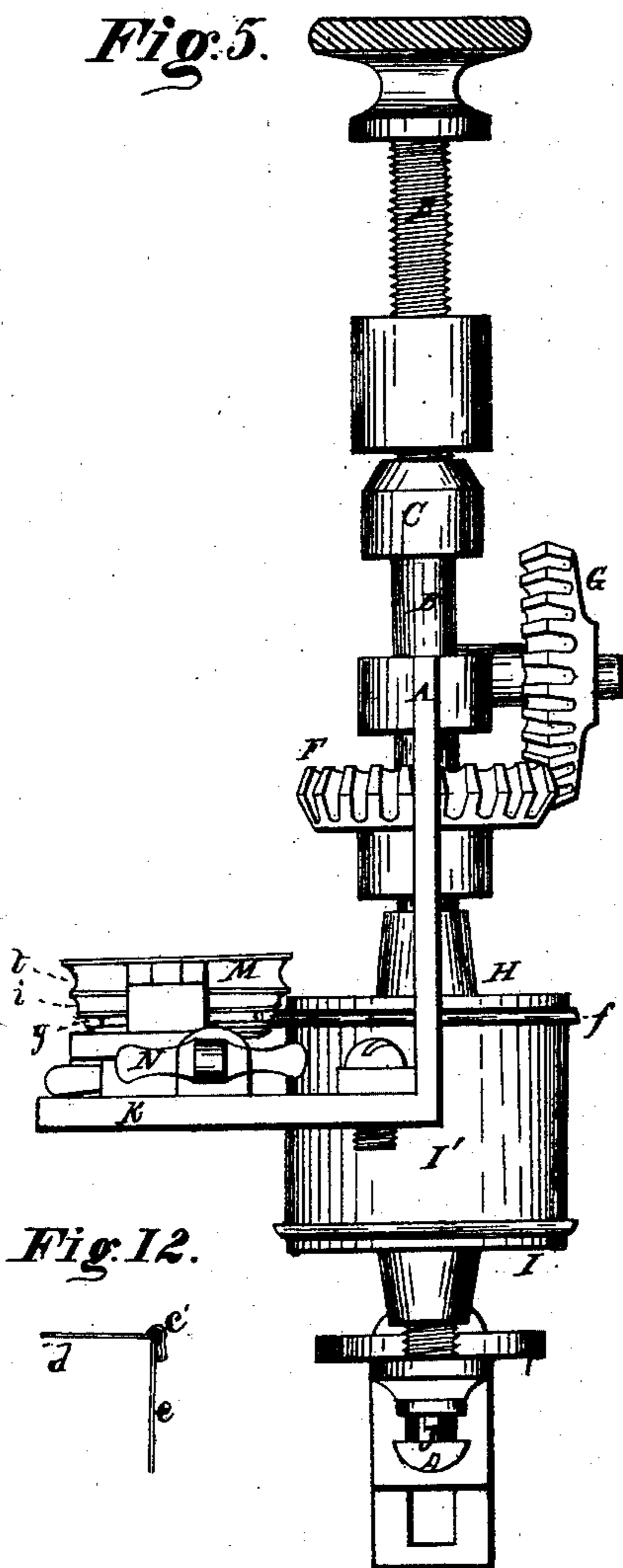
*Witnesses.*  
A. F. Cornell.  
S. C. Brownell

*Inventor.*  
L. C. Beardsley.  
Per. Berridge & Co.  
Attys.

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Per. Burridge & Co.  
Attorneys.

# UNITED STATES PATENT OFFICE.

LESTER C. BEARDSLEY, OF CLEVELAND, OHIO.

## IMPROVEMENT IN CAN-SEAMING MACHINES.

Specification forming part of Letters Patent No. **156,012**, dated October 20, 1874; application filed July 17, 1874.

*To all whom it may concern:*

Be it known that I, LESTER C. BEARDSLEY, of Cleveland, in the county of Cuyahoga and State of Ohio, have invented new and useful Improvements in Seaming for Paint-Packages, &c., whereof the following is a description, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side elevation of the seaming-machine. Fig. 2 is a plan view. Figs. 3 and 4 are detached sections. Fig. 5 is an end elevation. Figs. 6, 7, 8, 9, and 12 are samples of the work done by the machine. Figs. 10 and 11 are detached sections.

Like letters of reference refer to like parts in the several views.

The nature of this invention relates to a machine for seaming on the tops and bottoms of tin cans, and the object thereof is to put on the top or covers of the cans when said cans are filled without the application thereto of solder.

In the drawings, Fig. 1, A represents a frame, in which is journaled a shaft, B, the upper end whereof is secured in the head C so as to turn therein, and at the same time be raised or lowered thereby by means of the adjusting-screws D, to which the head is fixed. To the shaft or spindle B is fitted a pinion, F, through which the shaft slides, the pinion being carried by a feather. G is also a pinion, made to engage the pinion F, whereby it and the shaft are operated for a purpose presently shown. To the lower end of the shaft B is secured a head or disk, H, corresponding in size to the cover or bottom of a can, to which it is applied for holding the same while it is being seamed onto the body of the can. I, Figs. 1 and 5, is a disk or head corresponding in size to the disk H, and upon which the can I' stands while being operated upon, as shown in said Figs. 1 and 5. Said disk I is adjustable vertically by means of the screw J. To one side of the frame K, Fig. 2, at *a*, is hinged a lever, L, to the middle of which, and in such relation to the can I' as to engage the edge *f* thereof, as shown in Fig. 5, is pivoted a seaming-roller, M. Detached views of the lever and roller are shown in Figs. 10 and 11, showing the lever and roller in different posi-

tions. A detached view of a roller is shown in Fig. 3, in which the several grooves of the roller are more clearly shown.

The practical operation of the machine is as follows: The body of the can I' has its upper and lower rim turned outward at right angles, as may be seen in Fig. 6, in which *c* represents the side of a can or section thereof, and *d* the cover. The outward edge of the rim is shown at *e*. The cover *d* is struck up, and is provided with a dependent flange, *f*, Fig. 6. The cover is of such a size as to fit on over the top and projecting flange of the body, as shown in the section of a can, Fig. 6. A can, with the cover placed thereon, as indicated by the section, Fig. 6, is stood upon the disk I, down upon which is screwed tightly the upper disk H. Thus between the two disks or heads the can is firmly held, as shown in Figs. 1 and 5. By means of the lever L the roller M, attached thereto, is brought to the projecting edge of the can, as shown in Fig. 5, in which it will be seen that the lower groove *g*, Fig. 3, (a deep rectangular one,) of the roller embraces the edge of the cover. The can, when in this relation to the roller, is made to revolve by the pinions F G, which rotate the two disks conjointly, carrying therewith the can. As the can revolves the roller is pressed hard against the dependent edge *f* of the cover, which turns it under the projecting flange *e* of the can, as shown in Fig. 7. During this doubling under of the edge or flange *f* of the cover by the square groove of the roller the roller is kept horizontal, as shown in Fig. 2. This setting-down part of the process is followed by the turning down of the edge to an angle of about forty-five degrees, as indicated by the line *h*, Fig. 7. This is done by gradually turning the roller from a horizontal position to an oblique one, corresponding to the line *h*, referred to, while the can revolves. This turning of the roller is effected by the lever L, while it is being pressed against the edge of the cover. It is at the same time gradually turned on its bearings *a* and *a'*, Fig. 2, by the handle N, to an angle of about forty-five degrees, as aforesaid. At this stage of the process the groove *g* of the roller is removed from the edge or seam, and the groove *i* is now used in place of it. By means of this groove the edge of the

seam is forced or rolled down close against the side of the can, as shown in Fig. 8, by forcing the roller against it horizontally, and at the same time turning it by means of the lever L until the edge is rolled flat and close against the side of the can, as aforesaid. The seam, when fully completed, is shown in Fig. 12, in which it will be seen that there is formed, on the edge of the seam, a bead, *e'*, instead of a sharp angular corner. This rounded form of the edge of the seam is made by the groove *i*, while the flat part *i'* of the roller presses the seam, or the flat part of it, down upon the side of the can. Said groove prevents the tin from cracking, as it is liable to do when a sharp-angled corner is turned, and more especially is this the case when the metal is thin and of a low grade. To adjust the grooves *g* and *i* of the roller to the proper height to embrace the seam, is the purpose of the sleeve *a'*, which forms one of the bearings of the lever L a part of the time that the roller is being used. Said sleeve, by pushing it along from off the frame upon which it rests when in use, and allowing the lever to lie directly upon the frame, will make the difference in the height of the lever to adjust the grooves of the roller to the seam.

The cam O, Fig. 2, operated by the handle, is the power whereby the roller is forced hard against the seam, for rolling it down upon the side of the can. With the exercise of ordinary care, a seam made as above described will be water-tight; but to insure certainty in this particular, the edge of the can may be dipped upon soft white lead. The cover or the bottom is then laid on and the seam rolled down, as above described. A small amount of the lead between the edge of the cover and the flange *e* of the can will be forced up into

the tubular bead of the seam in the process of rolling it down, thereby forming, as it were, a cord of lead through the bead, which will make the seam certainly tight.

A wire is sometimes rolled into the edge of a can, as shown in Fig. 9, in which *m* represents a wire inclosed in the edge of a can. The edge of the cover is struck up with a view to this end, by having a wider flange, as seen at *n*, Fig. 9. To roll this flange down around the wired edge of the can is the purpose of the wide groove *t* of the roller, which, by its shape, will roll the flange of the cover around the wired edge of the can, as shown in said Fig. 9.

The roller M is represented as being made solid; but for the convenience of using the groove *g* for different thickness of tin, it is well to make the roller in two parts, *b' c'*, Fig. 4, and secure such parts together with pins, or with bolts *e'*. In this way the groove can be made wider for thicker metal, by interposing plates between the two sections.

The disk H and the disk I can each be adjusted in the matter of distance in respect to each other by the adjusting-screws B and J, so that large or small cans can be seamed by substituting for the disks H I others of a proper size.

What I claim as my invention, and desire to secure by Letters Patent, is—

The lever L, bearing or journal *a*, and sleeve *a'*, in combination with the roller M, cam O, and disks H I, in the manner as and for the purpose specified.

LESTER C. BEARDSLEY.

Witnesses:

W. H. BURRIDGE,  
J. O. MATHIVET.